UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF NEW YORK

RENSSELAER POLYTECHNIC INSTITUTE and CF
DYNAMIC ADVANCES LLC,

                              Plaintiffs,

v.

AMAZON.COM, INC.,

                              Defendant.

1:18-cv-549 (BKS/TWD)

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Hon. Brenda K. Sannes, Chief United States District Judge:

MEMORANDUM-DECISION AND ORDER

I.   INTRODUCTION

Plaintiffs Rensselaer Polytechnic Institute ("RPI") and CF Dynamic Advances LLC

("CF Dynamic") bring this patent infringement action against Defendant Amazon.com, Inc.

("Amazon"). (Dkt. No. 1). Presently before the Court are the parties' motions for summary

judgment. (Dkt. Nos. 384, 390). The parties have filed responsive briefing with respect to both

motions, (Dkt. Nos. 400, 407, 413, 414), and the Court heard oral argument on March 14, 2024,

(Text Minute Entry, March 14, 2024). Also before the Court are the parties' related motions to

strike or otherwise exclude expert testimony and statements of material fact. (Dkt. Nos. 383, 386,

388, 390, 411). These motions are fully briefed as well. (Dkt. Nos. 400, 401, 403, 405, 413, 416, 418, 420). For the following reasons, Plaintiffs' motion for summary judgment is denied, Defendant's motion for summary judgment is granted, and the parties' related motions are denied as moot.

II.   BACKGROUND[1]

A.   The Patent

The asserted patent in this infringement action, United States Patent No. 7,177,798 (the "'798 Patent"), is titled "Natural Language Interface Using Constrained Intermediate Dictionary of Results." '798 Patent, col. 1 ll. 1–3. The '798 Patent issued on February 13, 2007, and lists Cheng Hsu and Veera Boonjing as the inventors and RPI as the assignee. (*See* Dkt. No. 89-2 (2001 assignment of all rights from the inventors to RPI)). CF Dynamic holds exclusionary rights to the '798 Patent. *See Rensselaer Polytechnic Inst. v. Amazon.com, Inc.*, No. 18-cv-549, 2023 WL 6037877, at *1, 2023 U.S. Dist. LEXIS 163947, at *2 (N.D.N.Y. Sept. 15, 2023).

The '798 Patent relates to the field of natural language processing ("NLP"). '798 Patent, col. 1 ll. 22–24. Research in this field aims to enable humans to interact with machines or computers using human natural language rather than computer languages or specialized commands. *Id.* at col. 4 ll. 49–65. But the ambiguity inherent in natural language presents a challenge. *Id.* at col. 5. ll. 19–42. To interpret and process a natural language query, a natural language interface ("NLI") must understand the natural articulation of the query or enumerate and evaluate all possible interpretations of it. *Id.* at col. 5 ll. 24–26. And because in either case

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[1] The facts are construed in the light most favorable to the non-moving party. *See Gilles v. Repicky*, 511 F.3d 239, 243 (2d Cir. 2007). That is, the facts are construed in the light most favorable to Defendant when the Court considers Plaintiffs' motion, and the facts are construed in the light most favorable to Plaintiffs when the Court considers Defendant's motion. *See Lumbermens Mut. Cas. Co. v. RGIS Inventory Specialists, LLC*, 628 F.3d 46, 51 (2d Cir. 2010).

experience can be used to improve interpretation, an effective NLI must learn from past

performance. *Id.* at col. 5 ll. 27–30.

The '798 Patent details five approaches to NLIs known at the time of the invention. *See*

id. at col. 5 l. 43 to col. 6 l. 34. Four of these approaches—the template-based approach, syntax-

based approach, semantic-grammar-based approach, and intermediate-representation-language-

based approach—restrict the syntax with which a user can pose a natural language query. *Id.* at

col. 5 l. 60 to col. 6 l. 2. The user must articulate a query using only sentence structures and

words known by the NLI. *Id.* at col. 4 ll. 58–61, col. 5 l. 60 to col. 6 l. 2. Properly articulated

queries are translated into standard database query language and processed. *Id.* at col. 5 ll. 43–53.

But improperly articulated queries are often interpreted and processed inaccurately, if at all. *Id.*

at col. 5 ll. 60–66.

The fifth approach—the semantic-model-based approach—does not so depend on the

rigid construction of a query. *Id.* at col. 6 ll. 3–5. Instead, keywords in a query are identified and

associated with database objects in a semantic model, with the semantic model acting as a

roadmap to generate possible interpretations of the query. *Id.* at col. 6 ll. 8–10. However,

"[b]ecause a database object can be only a grossly simplistic element of the natural vocabulary,

keywords must shoulder the burden of representing naturalness." *Id.* at col. 6 ll. 28–31.

Therefore, this approach requires a semantic model to predefine an impractically large number of

keywords to span the range of possible usages.[2] *Id.* at col. 6 ll. 28–34.

The '798 Patent claims to offer an improved approach, paving the way for NLIs capable

of generating all possible interpretations of a natural language query in a form suitable for

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[2] Defendant's expert disputes the patent's assessment that the semantic-model-based approach leads to the exponential growth of keywords. (Dkt. No. 384-3, at 24). That dispute is immaterial to this decision.

evaluation while reducing the complexity and growth of keywords. *Id.* at col. 6 ll. 45–62. The

'798 Patent includes two independent claims—Claims 1 and 9—and nineteen dependent claims.

Id. at col. 36 l. 38 to col. 38 l. 37. The two independent claims are similar and each describe "[a]

method for processing a natural language input," though Claim 1 specifies that the input is

provided by a user and Claim 9 specifies that the method is computer-implemented. *Id.* at col. 36

ll. 38–39, col. 37 ll. 15–16. Claim 1 involves performing—based only on the input and without

augmentation—a search of one or more language-based databases, including at least one

metadata database, and providing a result of the search to the user. *Id.* at col. 36 ll. 41–50. Claims

1 and 9 require a metadata database comprised of four types of information: "case information,"

"keywords," "information models," and "database values." *Id.* at col. 36 ll. 43–48, col. 37 ll. 22–

27. Claims 1 and 9 involve identifying a finite number of database objects and determining a

plurality of combinations (Claim 1) or permutations (Claim 9) of the database objects. *Id.* at col.

36 ll. 51–54, col. 37 ll. 18–27. And Claim 9 further involves interpreting at least one permutation

to determine a result of the input. *Id.* at col. 37 ll. 28–29.

Claim 1 recites:

> 1. A method for processing a natural language input provided by a user, the method comprising:
>> providing a natural language query input by the user;
>> performing, based on the input, without augmentation, a search of one or more language-based databases including at least one metadata database comprising at least one of a group of information types comprising:
>>> case information;
>>> keywords;
>>> information models; and
>>> database values;
>> providing, through a user interface, a result of the search to the user;
>> identifying, for the one or more language-based databases, a finite number of database objects; and
>> determining a plurality of combinations of the finite number of database objects.

Id. at col. 36 ll. 38–54. Claim 9 recites:

> 9. A computer-implemented method for processing a natural language input comprising:
>> receiving a natural language input;
>> providing from said natural language input a plurality of language-based database objects;
>> identifying a finite number of permutations of the plurality of database objects, the database objects being stored in a metadata database comprising at least one of a group of information comprising
>>> case information,
>>> keywords,
>>> information models, and
>>> database values; and
>> interpreting at least one of the permutations to provide determination of a result of the natural language input.

Id. at col. 37 ll. 15–29. The remaining claims are dependent claims based off Claim 1 or 9. *See id.* at col. 36 l. 38 to col. 38 l. 37.

B. Procedural History

On May 8, 2018, Plaintiffs filed this suit alleging that certain of Defendant's products, including its Alexa Voice Service, infringe the '798 Patent. (*See generally* Dkt. No. 1). Plaintiffs contend that these products infringe "at least Claim 1 . . . by at least employing a voice-based command system that allows the user to ask questions or provide commands for performing tasks using speech." (*Id.* at 15).

On June 30, 2023, Defendant moved for summary judgment. (Dkt. No. 384, at 1). Defendant argues that the '798 Patent is invalid because it (1) recites subject matter not eligible for patent protection under 35 U.S.C. § 101; and (2) fails to satisfy the written description and enablement requirements of § 112. (Dkt. No. 384-1, at 8). Defendant also argues that it is entitled to summary judgment on the basis of noninfringement. (*Id.* ("Even if the Court were to find that the patent satisfies both § 101 and § 112, Amazon would still be entitled to summary judgment because Plaintiffs cannot raise a genuine issue of material fact regarding infringement.")). On

July 1, 2023, Plaintiffs moved for summary judgment as to Defendant's defenses and counterclaims under § 101 and § 112. (Dkt. No. 390, at 1).

III.   STANDARD OF REVIEW

Under Federal Rule of Civil Procedure 56(a), summary judgment may be granted only if all submissions taken together "show that there is no genuine issue as to any material fact and that the moving party is entitled to a judgment as a matter of law." *Celotex Corp. v. Catrett*, 477 U.S. 317, 322 (1986); *see also Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 247–48 (1986). A fact is material if it "might affect the outcome of the suit under the governing law" and is genuinely in dispute "if the evidence is such that a reasonable jury could return a verdict for the nonmoving party." *Anderson*, 477 U.S. at 248; *see also Jeffreys v. City of New York*, 426 F.3d 549, 553 (2d Cir. 2005) (citing *Anderson*, 477 U.S. at 248). The moving party bears the initial burden of demonstrating "the absence of a genuine issue of material fact." *Celotex*, 477 U.S. at 323. If the moving party meets this burden, the nonmoving party must "set forth specific facts showing that there is a genuine issue for trial." *Anderson*, 477 U.S. at 248, 250; *see also Celotex*, 477 U.S. at 323–24; *Wright v. Goord*, 554 F.3d 255, 266 (2d Cir. 2009).

"When ruling on a summary judgment motion, the district court must construe the facts in the light most favorable to the non-moving party and must resolve all ambiguities and draw all reasonable inferences against the movant." *Dallas Aerospace, Inc. v. CIS Air Corp.*, 352 F.3d 775, 780 (2d Cir. 2003). "Where . . . there are cross-motions for summary judgment, 'each party's motion must be examined on its own merits, and in each case all reasonable inferences must be drawn against the party whose motion is under consideration.'" *Lumbermens*, 628 F.3d at 51 (quoting *Morales v. Quintel Ent. Inc.*, 249 F.3d 115, 121 (2d Cir. 2001)).

IV.   ANALYSIS

A.   Motions for Summary Judgment as to Validity

A patent may be obtained for "any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof," 35 U.S.C. § 101, but not for any law of nature, natural phenomenon, or abstract idea, *Mayo Collaborative Servs. v. Prometheus Lab'ys, Inc.*, 566 U.S. 66, 70 (2012). To determine whether a patent claims ineligible subject matter, courts apply a two-step test. *Alice Corp. Pty. v. CLS Bank Int'l*, 573 U.S. 208, 217 (2014). First, courts "determine whether the claims at issue are directed to one of those patent-ineligible concepts." *Id.* (citing *Mayo*, 566 U.S. at 77). Then, if they are, courts "consider the elements of each claim both individually and 'as an ordered combination' to determine whether the additional elements 'transform the nature of the claim' into a patent-eligible application." *Id.* (quoting *Mayo*, 566 U.S. at 77–78).

Patent eligibility under § 101 is a question of law that may involve underlying questions of fact. *PersonalWeb Techs. LLC v. Google LLC*, 8 F.4th 1310, 1314 (Fed. Cir. 2021). "But not every § 101 determination contains genuine disputes over the underlying facts material to the § 101 inquiry." *Berkheimer v. HP Inc.*, 881 F.3d 1360, 1368 (Fed. Cir. 2018). At the March 14, 2024 hearing, Plaintiffs stated that in this case the Court can rely on the '798 Patent and post-*Alice* caselaw and resolve *Alice* steps one and two as matters of law. The Court agrees. *See*, *e.g.*, *Mortg. Grader, Inc. v. First Choice Loan Servs. Inc.*, 811 F.3d 1314, 1325–26 (Fed. Cir. 2016) (affirming grant of summary judgment that asserted claims recited patent-ineligible subject matter where the district court relied only on the claims and specification of the patents-in-suit in making its validity determination).[3]

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[3] The Court notes that in their motion for summary judgment Plaintiffs asked the Court to rule, as a matter of law, under § 101, (Dkt. No. 390-1, at 6), but then, in response to Defendant's motion for summary judgment under § 101,

8

1.   *Alice* Step One

To determine whether a claim is directed to a patent-ineligible concept—relevant here, an abstract idea—courts must examine "what the patent asserts to be the focus of the claimed advance over the prior art." *Hawk Tech. Sys., LLC v. Castle Retail, LLC*, 60 F.4th 1349, 1356 (Fed. Cir. 2023) (quoting *Solutran, Inc. v. Elavon, Inc.*, 931 F.3d 1161, 1168 (Fed. Cir. 2019)). "[W]hile the specification may help illuminate the true focus of a claim, . . . reliance on the specification must always yield to the claim language in identifying that focus." *Trinity Info Media, LLC v. Covalent, Inc.*, 72 F.4th 1355, 1361 (Fed. Cir. 2023) (quoting *Charge-Point, Inc. v. SemaConnect, Inc.*, 920 F.3d 759, 766 (Fed. Cir. 2019) (first alteration in original)).

"At some level, all inventions . . . embody, use, reflect, rest upon, or apply laws of nature, natural phenomena, or abstract ideas." *Alice*, 573 U.S. at 217 (quotation marks and citation omitted). Therefore, courts must "avoid oversimplifying claims by looking at them generally and failing to account for the specific requirements of the claims." *McRO, Inc. v. Bandai Namco Games Am. Inc.*, 837 F.3d 1299, 1313 (Fed. Cir. 2016) (internal quotes omitted). And because the Supreme Court has not defined the "precise contours of the 'abstract ideas' category," *Alice*, 573 U.S. at 221, courts "examine earlier cases in which a similar or parallel descriptive nature can be seen—what prior cases were about, and which way they were decided," *Amdocs (Israel) Ltd. v. Openet Telecom, Inc.*, 841 F.3d 1288, 1294 (Fed. Cir. 2016). *Compare Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1353 (Fed. Cir. 2016) (finding that claims were directed to "collecting information, analyzing it, and displaying certain results of the collection and analysis"—an abstract idea), *with Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1339 (Fed.

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argued that the opinion of Plaintiffs' expert, Dr. Steven Shwartz, creates a genuine issue of material fact, (Dkt. No. 407, at 38). As set forth below, the patent fails as a matter of law under § 101 and Dr. Shwartz's opinion does not raise any genuine issue over any underlying material fact.

Cir. 2016) (finding that claims were directed to "a specific type of data structure designed to improve the way a computer stores and retrieves data in memory"—not an abstract idea).

Defendant argues that the '798 Patent claims are "directed to the abstract idea of answering a question using four generic types of stored information." (Dkt. No. 384-1, at 22). Plaintiffs respond that the claims are in fact "directed to a specific technological solution to a concrete problem within NLP." (Dkt. No. 407, at 16). While the Court agrees with Plaintiffs that Defendant describes the patent "'at such a high level of abstraction and untethered from the language of the claims' in a way that 'all but ensures that the exceptions to § 101 swallow the rule,'" (*id.* at 17 (citing *Enfish*, 822 F.3d at 1337)), the Court nevertheless concludes that the '798 Patent claims are directed to an abstract idea: an approach for interpreting and responding to a natural language input by storing and searching certain types of information.

Claim 1 recites "[a] method for processing a natural language input provided by a user." '798 Patent, col. 36 ll. 38–41. The method entails "performing, based on [a natural language] input, . . . a search of one or more language-based databases including at least one metadata database comprising at least one of a group of information types comprising [four types of information]." *Id*. at col. 36 ll. 41–48. From there, the method requires "identifying . . . database objects," "determining a plurality of combinations of the finite number of database objects," and "providing, through a user interface, a result of the search to the user." *Id*. at col. 36 ll. 49–54. Claim 9 recites a computer-implemented version of substantially the same method. *See id*. at col. 37 ll. 15–29.

Where computer- and software-related claims are involved, *Alice* step one often turns on "whether the focus of the claims is on [a] specific asserted improvement in computer capabilities . . . or, instead, on a process that qualifies as an 'abstract idea' for which computers are invoked

10

merely as a tool." *Enfish*, 822 F.3d at 1335–36. Although Plaintiffs argue that "the '798 Patent claims are directed to a specific technological solution," (Dkt. No. 407, at 16), the claims themselves suggest a broader focus.

Claim 1 requires the functional results of "providing" an input, "performing . . . a search," "identifying . . . database objects," "determining . . . a plurality of combinations," and "providing . . . a result," without adequately explaining in a non-abstract way how these results might be achieved. '798 Patent, col. 36 ll. 38–54. Claim 9 invokes the use of a computer but is otherwise identical in this regard. *See id.* at col. 37 ll. 17–29. The focus of these claims, therefore, is an improved approach to collecting, analyzing, and displaying information of a specified content "and not any particular assertedly inventive technology for [doing so]." *Elec. Power Grp.*, 830 F.3d at 1354. This "places [them] in the 'familiar class of claims "directed to" [an abstract idea].'" *Trinity Info Media*, 72 F.4th at 1362 (quoting *Elec. Power Grp.*, 830 F.3d at 1353) (finding that claims reciting "a poll-based networking system that connects users based on similarities as determined through poll answering and provides real-time results to the users" were directed to an abstract idea and not improvements to the functionality of a computer or network platform); *see also Elec. Power Grp.*, 830 F.3d at 1353–54 ("[W]e have treated collecting information, including when limited to particular content (which does not change its character as information), as within the realm of abstract ideas. . . . And we have recognized that merely presenting the results of abstract processes of collecting and analyzing information, without more (such as identifying a particular tool for presentation), is abstract as an ancillary part of such collection and analysis." (citations omitted)); *Intell. Ventures I LLC v. Erie Indem. Co.*, 850 F.3d 1315, 1327 (Fed. Cir. 2017) ("We have previously held other patent claims ineligible for reciting similar abstract concepts that merely collect, classify, or otherwise filter

11

data."); *Berkheimer*, 881 F.3d at 1366 (noting that "parsing, comparing, storing, and editing data" is an abstract idea); *SAP Am., Inc. v. InvestPic, LLC*, 898 F.3d 1161, 1167–68 (Fed. Cir. 2018) (finding that claims directed to "the selection and mathematical analysis of information, followed by reporting or display of the results," were not focused on "physical-realm improvements" to computers as tools but on improvements to "wholly abstract ideas").

The specification provides further evidence that the focus of the '798 Patent claims is broader than a specific technological solution—and that "computers are invoked merely as a tool." *Enfish*, 822 F.3d at 1335–36. The specification explains that then-existing NLIs restricted the syntax with which users could pose natural language queries and that then-existing NLP systems "ha[d] not achieved the accuracy and reliability expected of them." '798 Patent, col. 1 ll. 66–67, col. 2 ll. 23–31. But the specification frames this problem in conceptual—not technological—terms, highlighting "[a] handful of basic approaches" and explaining the shortcomings of each. *Id.* at col. 5 l. 43 to col. 6 l. 34. In describing the claimed advance, moreover, the specification emphasizes its own conceptual underpinnings. *See, e.g.*, *id.* at col. 12 ll. 36–38 ("Case-based reasoning adds to the search to achieve maximum naturalness with minimum enumeration."); *id.* at col. 14 ll. 20–22 ("A learning mechanism allows richer keywords and cases to provide more accurate performance."); *id.* at col. 16 ll. 60–65 ("The system uses cases to resolve ambiguity in the recognition of meaningful terms . . . in the input and to help determine the solution among multiple possible interpretations.").[4] And the specification repeatedly notes that the claimed advance is not limited to a particular technological solution and does not require specialized computer components. *See, e.g.*, *id.* at

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[4] At the *Markman* hearing, Plaintiffs similarly characterized the claimed advance as a "paradigm shift." (Dkt. No. 162, at 21 ¶¶ 6–15).

col. 9 ll. 56–57 ("[T]he invention is not limited to any particular implementation."); *id.* at col. 9

ll. 58–64 ("[T]he invention is not limited to a particular computer system platform, processor,

operating system, or network . . . [and] the present invention is not limited to a specific

programming language or computer system and that other appropriate programming languages

and other appropriate computer systems could also be used."); *id.* at col. 36 ll. 29–36 ("[T]he

breadth and scope of the present invention are not limited by any of the above exemplary

embodiments"); *id.* at col. 9 ll. 18–20 ("Computer system [] may be a general purpose computer

system.").[5] Therefore, the specification confirms what the claims suggest: the inventors

confronted an abstract problem, not one specific to computer technology.

In addition, "[a] 'telltale sign of abstraction' is when the claimed functions are 'mental

processes that "can be performed in the human mind" or "using a pencil and paper."'" *Trinity

Info Media*, 72 F.4th at 1361–62 (quoting *PersonalWeb Techs.*, 8 F.4th at 1316). And "with the

exception of generic computer-implemented steps, there is nothing in [the '798 Patent claims]

that forecloses [each step] from being performed by a human, mentally or with pen and paper."

Intell. Ventures I LLC v. Symantec Corp., 838 F.3d 1307, 1318 (Fed. Cir. 2016). It matters not

that each step might be confined to a technological environment, *Berkheimer*, 881 F.3d at 1367

("Limiting the invention to a technological environment does 'not make an abstract concept any

less abstract under step one.'" (quoting *Intell. Ventures I LLC v. Cap. One Fin. Corp.*, 850 F.3d

1332, 1340 (Fed. Cir. 2017))), or performed more efficiently by a computer than a human,

Customedia Techs., LLC v. Dish Network Corp., 951 F.3d 1359, 1364 (Fed. Cir. 2020)

("'[C]laiming the improved speed or efficiency inherent with applying the abstract idea on a

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[5] The specification is consistent in this respect with the position Plaintiffs took at the *Markman* hearing, where they asserted that each step within an embodiment of the invention may be implemented "using a wide range of possible strategies and algorithms." (Dkt. No. 162, at 21 ¶¶ 15–24).

computer' [is] insufficient to render the claims patent eligible as an improvement to computer functionality." (quoting *Intell. Ventures I LLC v. Cap. One Bank (USA)*, 792 F.3d 1363, 1370 (Fed. Cir. 2015))). "[C]laims can be directed to an abstract idea even if [they] *require* generic computer components or *require* operations that a human could not perform as quickly as a computer." *Trinity Info Media*, 72 F.4th at 1364 (emphases added).

Plaintiffs point to claims deemed patent eligible in *Enfish* and *Data Engine Technologies LLC v. Google LLC*, 906 F.3d 999, 1007–08 (Fed. Cir. 2018). But those claims are distinguishable. There is no question that "software can make non-abstract improvements to computer technology just as hardware improvements can." *Enfish*, 822 F.3d at 1335. But for a claim to be directed to a patent-eligible improvement to computer technology, its focus must be an improvement to the functionality of the computer or network platform itself. *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245, 1257–59 (Fed. Cir. 2014). The *Enfish* claims were directed to a specific self-referential table for a computer database. 822 F.3d at 1336–39. Similarly, the *Data Engine* claims were directed to a particular tool for navigating three-dimensional electronic spreadsheets. 906 F.3d at 1007–08. In both cases, the claims offered concrete solutions to then-existing technological problems with "the specificity required to transform a claim from one claiming only a result to one claiming a way of achieving it." *InvestPic*, 898 F.3d at 1167 (describing *Data Engine*). By contrast, the '798 Patent claims offer a general approach, not a specific technological solution.

Finally, Defendant argues, (Dkt. No. 384-1, at 29–32), and the Court agrees, that Claim 1 is representative of all '798 Patent claims and that each claim is directed to the same abstract idea. *See Content Extraction & Transmission LLC v. Wells Fargo Bank, Nat'l Ass'n*, 776 F.3d 1343, 1348 (Fed. Cir. 2014) (finding that a detailed assessment of each claim is not always

14

necessary where the asserted claims are "substantially similar and linked to the same abstract idea" (quoting *Content Extraction & Transmission LLC v. Wells Fargo Bank, Nat'l Ass'n*, No. 12-2501, 2013 WL 3964909, at *5, 2013 U.S. Dist. LEXIS 107184, at *16 (D.N.J. July 31, 2013) (citing *Bilski v. Kappos*, 561 U.S. 593, 612), *aff'd*, 776 F.3d 1343)). Plaintiffs do not address Defendant's argument in their briefing, *see id.* (noting a party's failure to argue against representative claim contentions while affirming the district court's representative claim determination), and at the March 14, 2024 hearing identified only Claims 2, 5, and 6 as not represented by Claim 1. Having reviewed each of the claims, including Claims 2, 5, and 6, the Court finds that none of the claims meaningfully shift the focus away from the underlying abstract idea. Some of the claims specify generic steps for analyzing information (e.g., Claims 2 and 6). '798 Patent, col. 36 ll. 54–56, col. 37 ll. 4–7. Some refer to desired results (e.g., Claims 5 and 6). *Id.* at col. 37 ll. 1–7. And others require a technological environment (e.g., Claims 9 and 12). *Id.* at col. 37 ll. 15–16, , col. 37 ll. 37–39. But limiting an abstract idea in these ways "does 'not make [the idea] any less abstract under step one.'" *Berkheimer*, 881 F.3d at 1367 (quoting *Cap. One Fin. Corp.*, 850 F.3d at 1340).

2.   *Alice* Step Two

Because the '798 Patent claims are directed to an abstract idea, the Court must proceed to step two of the *Alice* inquiry and search for an inventive concept sufficient to transform the abstract idea into a patent-eligible application. *Alice*, 573 U.S. at 222. The inventive concept may arise in one or more of the claim elements or in their ordered combination but must in either case be significantly more than the abstract idea itself. *Id.* at 217–18. Moreover, the inventive concept must be evident in the claims themselves. *Two-Way Media Ltd. v. Comcast Cable Commc'ns, LLC*, 874 F.3d 1329, 1338 (Fed. Cir. 2017) ("The main problem that Two-Way Media cannot overcome is that the claim—as opposed to something purportedly described in the

specification—is missing an inventive concept." (citing *RecogniCorp, LLC v. Nintendo Co.*, 855

F.3d 1322, 1327 (Fed. Cir. 2017))); *see also Symantec*, 838 F.3d at 1322 ("The district court

erred in relying on technological details set forth in the patent's specification and not set forth in

the claims to find an inventive concept.").

Plaintiffs argue that "the '798 Patent marries case-based reasoning with natural language

processing (two distinct technologies at the time of the invention) in the novel combination

disclosed in the '798 Patent—cases, keywords, information models, and database values,

combined together in a metadata database." (Dkt. No. 407, at 30). According to Plaintiffs, this

"ordered combination . . . provides an 'inventive concept' under *BASCOM*." *Id.* (citing *BASCOM

Global Internet Servs. v. AT&T Mobility LLC*, 827 F.3d 1341, 1349–50 (Fed. Cir. 2016)). The

Court disagrees. The '798 Patent claim elements—considered individually and as an ordered

combination—fail to transform the abstract idea into a patent-eligible application. *Alice*, 573

U.S. at 222.

As the Court explained at step one, the '798 Patent claims recite an approach to

collecting, analyzing, and displaying information and are therefore directed to an abstract idea.

Trinity Info Media, 72 F.4th at 1362. To be sure, this approach is limited to the context of NLP.

See e.g., '798 Patent, col. 36 l. 38 ("A method for processing a natural language input"). But

"limiting an abstract idea to one field of use . . . [does] not make [an abstract] concept

patentable." *Bilski*, 561 U.S. at 612; *see also Cap. One Fin. Corp.*, 850 F.3d at 1340 ("[Field of

use] limitations do not render an otherwise abstract concept any less abstract.").

Certain claim elements specify the information to be collected and analyzed. *See, e.g.*,

'798 Patent, col. 36 ll. 41–48 ("information types comprising: case information; keywords;

information models; and database values"). But this information seems "well-understood,

16

routine, [and] conventional." *Alice*, 573 U.S. at 225; *see, e.g.*, '798 Patent, col. 12 ll. 12–14

("[I]nformation models are webs of concepts for enterprise databases."); *id.* at col. 11 ll. 48–51

(Keywords are "significant words and phrases"); *id.* at col. 30 ll. 27–28 (Database values refer to

"database computational operators"); *Rensselaer Polytechnic Inst. v. Amazon.com, Inc.*, No. 18-

cv-549, 2022 WL 819231, at *7, 2022 U.S. Dist. LEXIS 48998, at *22 (N.D.N.Y. Mar. 18,

2022) (adopting the claim construction for "case information" as "information about prior

instances of use of the natural language processing method"). And, in any event, "merely

selecting information, by content or source, for collection, analysis, and display does nothing

significant to differentiate a process from ordinary mental processes, whose implicit exclusion

from § 101 undergirds the information-based category of abstract ideas." *Elec. Power Grp.*, 830

F.3d at 1355; *see also BSG Tech LLC v. Buyseasons, Inc.*, 899 F.3d 1281, 1288 (Fed. Cir. 2018)

("[A]n improvement to the information stored by a database is not equivalent to an improvement

in the database's functionality.").

Other claim elements require computer implementation. *See, e.g.*, '798 Patent, col. 37 ll.

15–16. But these elements do not call for specialized computer components. *See, e.g.*, *id.* at

col. 9 ll. 18–20 ("Computer system [] may be a general purpose computer system."). In fact, they

add nothing more than "conventional computer and network components operating according to

their ordinary functions." *Two-Way Media*, 874 F.3d at 1339. Databases and user interfaces, for

example, are generic. *See Mortg. Grader*, 811 F.3d at 1324–25 (stating that the addition of

"generic computer components" such as an "interface" and "database" do not "make an

otherwise ineligible claim patent-eligible"); *Cap. One Bank (USA)*, 792 F.3d at 1370 ("[T]he

interactive interface limitation is a generic computer element."). And "[t]he use of meta[data] . . .

17

is . . . [a] natural consequence of carrying out [an] abstract idea in a computing environment." *Erie*, 850 F.3d at 1329.

Consequently, although individual claim elements narrow to some extent the scope of the '798 Patent, they nevertheless fail to transform the underlying abstract idea into a patent-eligible application. *See Alice*, 573 U.S. at 223–24. ("[W]holly generic computer implementation is not generally the sort of 'additional featur[e]' that provides any 'practical assurance that the process is more than a drafting effort designed to monopolize the [abstract idea] itself.'" (quoting *Mayo*, 566 U.S. at 77 (first and third alteration in original))); *Ultramercial, Inc. v. Hulu, LLC*, 772 F.3d 709, 715 (Fed. Cir. 2014) ("Although certain additional limitations . . . add a degree of particularity, the concept embodied by the majority of the limitations describes only the abstract idea.").

As an ordered combination, the '798 Patent claim elements "add[] nothing . . . that is not already present when [they] are considered separately." *Mayo*, 566 U.S. at 79. The elements are ordered in a predictable manner for collecting, analyzing, and displaying information, meaning they simply "spell[] out what was inherent in the abstract idea itself[,] [which] is not an inventive concept within the meaning of *Mayo/Alice*." *Island Intell. Prop., LLC v. StoneCastle Asset Mgmt. LLC*, 463 F. Supp. 3d 490, 498 (S.D.N.Y. 2020); *see also Fitbit Inc. v. AliphCom*, No. 16-cv-118, 2017 WL 819235, at *17, 2017 U.S. Dist. LEXIS 30721, at *54 (N.D. Cal. Mar. 2, 2017) (finding no inventive concept in the "conventional order of how data is usually analyzed: data is first received, then processed, then compared against a condition, and the notification is triggered when the condition is met"); *Two-Way Media*, 874 F.3d at 1339 (finding no inventive concept in a "claim [that] uses a conventional ordering of steps—first processing the data, then routing it,

controlling it, and monitoring its reception—with conventional technology to achieve its desired result").

Moreover, nothing in the ordered combination of claim elements "purport[s] to improve the functioning of the computer itself." *Alice*, 573 U.S. at 225. In *BASCOM*, the Federal Circuit upheld claims directed to the abstract idea of "filtering content on the internet" because "the non-conventional and non-generic arrangement of known, conventional pieces" amounted to a specific solution: a "discrete implementation of the abstract idea." 827 F.3d at 1349–50. This specificity—"the installation of a filtering tool at a specific location, remote from the end-users, with customizable filtering features specific to each end user"—reassured the Federal Circuit that the plaintiff was not attempting to "preempt all ways of filtering content on the Internet." *Id.* at 1350. By contrast, the '798 Patent claims are similarly directed to an abstract idea (an approach for interpreting and responding to a natural language input by storing and searching certain types of information), but the claim elements offer no specific solution, in ordered combination or otherwise. *See Elec. Power Grp.*, 830 F.3d at 1354 (invalidating claims directed to the abstract idea of "gathering and analyzing information of a specified content, then displaying the results, and not any particular assertedly inventive technology for performing those functions").

Plaintiffs argue that the ordered combination disclosed in the '798 Patent does solve a specific technical challenge plaguing the prior art. (*See* Dkt. No. 407, at 33). But much of this purported solution lies in the use of case-based reasoning and, as an initial matter, it is not altogether clear that case-based reasoning is meaningfully reflected in the *claims*. The specification states that "an NLI [] needs to be able to learn from its performance." '798 Patent, col. 5 ll. 27–31. And, citing the specification, Plaintiffs exalt a "learning mechanism that allows richer keywords and cases to provide more accurate performance," (Dkt. No. 407, at 13 (quoting

'798 Patent, col. 14 ll. 20–22)); an "exemplary 'search and learn' system that can 'learn from the users in a way that improves both effectiveness and efficiency,'" (*id.* at 12 (quoting '798 Patent, col. 6 ll. 35–39)). But the *claims* include only oblique references to "cases" and "case information" as information to be searched or stored as part of an analysis. *See e.g.*, '798 Patent, col. 36 l. 45; col. 38 l. 22). "Case information" is simply a type of information, specifically "information about prior instances of use of the natural language processing method." *Rensselaer*, 2022 WL 819231, at *7, 2022 U.S. Dist. LEXIS 48998, at *22. And "selecting information, by content or source," does not suffice under *Alice*. *Elec. Power Grp.*, 830 F.3d at 1355; *see also EDPA, LLC v. Geopath, Inc.*, 543 F. Supp. 3d 4, 23 (S.D.N.Y. 2021) ("[T]he fact that the data to be collected and analyzed is germane to a specific, narrowly defined problem cannot save the eligibility of the claims.").

Even assuming case-based reasoning is sufficiently reflected in the claims to warrant serious consideration, and assuming further that case-based reasoning was at the time of the invention novel as applied to NLP, Plaintiffs characterize case-based reasoning as "a problem-solving methodology conceived in the 1970s that uses past experiences or cases to solve new problems" and that "was not analytically difficult for researchers to implement or practice." (Dkt. No. 407, at 11). Therefore, in "marrying case-based reasoning with natural language processing," the '798 Patent claims at most transpose an existing method for collecting, analyzing, and displaying information into the NLP context. Moreover, humans routinely engage in case-based reasoning of sorts when interpreting and responding to a natural language input, using past experiences to solve new problems, meaning the application of case-based reasoning to NLP is not a solution "necessarily rooted in computer technology in order to overcome a

20

problem specifically arising in the realm of computer networks." *DDR Holdings*, 773 F.3d at 1257.

"In sum, there is a critical difference between patenting a particular concrete solution to a problem and attempting to patent the abstract idea of a solution to the problem in general." *Elec. Power Grp., LLC v. Alstom, S.A.*, No. 1206365, 2015 WL 12720309, at *7, 2015 U.S. Dist. LEXIS 67232, at *21 (C.D. Cal. May 21, 2015), *aff'd*, 830 F.3d 1350. In this instance, the problem is how to interpret and respond to a natural language input by storing and searching certain types of information. While certain concrete solutions to this problem might be patentable, the abstract idea of solving this problem is not. By its own terms, the '798 Patent offers an approach, not a specific technological solution, and the '798 Patent claim language is "so result-focused, so functional, as to effectively cover any solution." *Elec. Power Grp.*, 830 F.3d at 1356. While certain claim elements narrow to some extent the scope of the patent, they do not "ensure that the patent in practice amounts to significantly more than" the underlying abstract idea. *Alice*, 573 U.S. at 217–18; *see also BASCOM*, 827 F.3d at 1352 (noting that Federal Circuit decisions have explained "that simply because some of the claims narrowed the scope of protection through additional 'conventional' steps for performing the abstract idea, they did not make those claims any less abstract"). The Court concludes that the '798 Patent claims contain no inventive concept and that the '798 Patent is invalid for reciting subject matter not eligible for patent protection under § 101.[6]

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[6] In their memorandum opposing Defendant's motion for summary judgment, Plaintiffs contend that "Dr. Shwartz's opinion creates a genuine issue of material fact with respect to whether the claimed ordered combination was non-conventional and non-generic." (Dkt. No. 407, at 38). The Court disagrees. The '798 Patent claim elements offer no specific solution to a technological challenge, in ordered combination or otherwise. This is true whether or not the ordered combination was at the time of the invention non-conventional and non-generic. *See, e.g.*, *Mortg. Grader*, 811 F.3d at 1325–26 (observing that "[t]he mere existence in the record of dueling expert testimony does not necessarily raise a genuine issue of material fact" and affirming grant of summary judgment that asserted claims recited patent-ineligible subject matter where the district court relied only on the claims and specification of the patents-in-suit in making its validity determination).

On this basis, the Court denies Plaintiffs' motion for summary judgment and grants

Defendant's motion for summary judgment. Given this holding, the Court does not address the

parties' motions for summary judgment as to enablement, written description, and infringement.

B.   Related Motions

The parties' related motions to strike or otherwise exclude testimony and statements of

material fact are also before the Court. (Dkt. Nos. 383, 386, 388, 390, 411). Two of these

motions seek to exclude the expert reports and testimony proffered by the parties' damages

experts, Dr. Devrim Ikizler and Mr. Jeffrey Kinrich, which are not relevant to the Court's § 101

analysis. (Dkt. Nos. 386, 388). Given the Court's finding of invalidity, damages do not need to

be addressed. Accordingly, these motions are denied as moot.

The remaining motions seek to exclude testimony proffered by the parties' technical

experts, Dr. Steven Shwartz and Dr. James Allen, and to strike certain of Plaintiffs' responses to

the facts set forth in Defendant's statement of material facts and certain of Plaintiffs' additional

material facts in dispute. (Dkt. Nos. 383, 390, 411). The expert testimony at issue does not

introduce any genuine dispute of material fact from which a reasonable factfinder could conclude

that the '798 Patent is valid under § 101. And the Court has relied only on the '798 Patent

claims, its specification, and the post-*Alice* caselaw in reaching its validity determination.

Finally, the Court has not relied on the testimony or statements of material fact that either party

wishes to exclude in reaching its conclusion that the '798 Patent is invalid for reciting subject

matter not eligible for patent protection under § 101. Therefore, these motions are also denied as

moot.

V.   CONCLUSION

For these reasons, it is hereby

ORDERED that Plaintiffs' motion for summary judgment, (Dkt. No. 390), is **DENIED**;

22

and it is further

ORDERED that Defendant's motion for summary judgment, (Dkt. No. 384), is

GRANTED and Plaintiffs' complaint, (Dkt. No. 1), is **DISMISSED with prejudice**; and it is

further

ORDERED that the parties' related motions, (Dkt. Nos. 383, 386, 388, 390, 411), are

DENIED as moot; and it is further

ORDERED that the Clerk serve a copy of this Order on the parties in accordance with

the Local Rules; and it is further

ORDERED that the Clerk is directed to close this case.

IT IS SO ORDERED.

Dated: <u>March 18, 2024</u>
      Syracuse, New York

Brenda K. Sannes
Chief U.S. District Judge

23